University of Alberta

Validity of the PCL:YV for Predicting Recidivism Among Incarcerated Male Young Offenders

by

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Abstract

This study examined the validity of the PCL:YV (Psychopathy Checklist: Youth Version) in predicting recidivism with a group of incarcerated adolescents. The sample consisted of 95 adolescent males, ages 12-18, that were charged and/or convicted of one or more violations under the Canadian Young Offenders Act and were legally mandated for assessment and treatment services. Historical data was used to retrospectively complete the PCL:YV as well as to obtain previous criminal charges prior to admission and upon release for a three year follow-up period. A significant, positive relationship was found between the PCL:YV and general rates of reoffending; however, this correlation no longer held when criminal history was accounted for. No significant relationship was found between the PCL:YV and violent reoffending. Findings are discussed in relation to other research examining the usefulness of the PCL:YV and future directions for research are suggested.

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Introduction

When individuals are incarcerated for committing a criminal offense, decision makers are keenly interested in the safety of the general public concerning the release of these same offenders. A question that is of paramount importance is, what is the likelihood that convicted offenders will recidivate (or reoffend) when released into the community? In addition, experts and the public at large have increasing concerns in cases of violent reoffending. These concerns over repeat criminal offenses have generated a growing body of research on risk assessment with adults (e.g., Douglas & Webster, 1999; Steadman et al., 2000). Risk assessment entails the identification of individuals that are at the highest risk of recidivating upon release and, in recent years, identifying individuals with psychopathic traits is playing an important role in the assessment and management of adult offenders (Vincent & Hart, 2002; Zinger & Forth, 1998).

Given that antisocial and delinquent behavior in adolescence contributes disproportionately to the overall crime rate, it is not surprising that research in the area of risk assessment is now directed at young offenders as well. For example, in 2003, adolescents ages 12 to 17 were responsible for nearly 15% of all criminal charges in Canada (Statistics Canada, 2003). Considering that adolescents make up less than 10% of the entire Canadian population, the percent of youths contributing to the overall crime rate is quite significant. A large body of research has identified specific risk factors leading to youth violence and criminal behavior. These factors include family history, physiological factors (e.g. neurotransmitters), and peer influence (for a review see Loeber & Stouthamer-Loeber, 1998). As well, researchers are interested in personality disorder

as a risk factor. Particularly, an area of increasing interest is the study of psychopathy and its relationship to delinquency with children and adolescents (Vincent & Hart, 2002). Although controversy exists over the stability of specific personality traits during child and adolescent development (Edens, Skeem, Cruise, & Cauffman, 2001; Seagrave & Grisso, 2002), the measurement of psychopathy is becoming an important focal point of research in identifying particular subsets of offenders across the lifespan. The current study attempts to add to the growing research on the relationship between the recently developed Psychopathy Checklist: Youth Version (PCL:YV; Forth, Kosson, & Hare, 2003) and adolescent offending behavior.

Hare Psychopathy Checklist

The PCL:YV was adapted from the Hare Psychopathy Checklist – Revised (PCL-R; Hare, 1991, 2003). Therefore, to better understand the development of the PCL:YV, it is important to review the history and construction of the PCL-R. The PCL-R was developed to assess psychopathy with adults in forensic and correctional settings and is the most commonly used measure of psychopathy in adults. Psychopathy is a psychological construct that describes a specific cluster of affective, interpersonal, and behavioral characteristics (Hare, 1991). It is well accepted that Hervey Cleckley provided the first comprehensive definition of a psychopathic personality, described in his book *The Mask of Sanity* (1941, 1976). Cleckley (1976) outlined 16 criteria for psychopathy, which included characteristics such as superficial charm, lack of remorse, lack of anxiety, unreliability, egocentricity, and untruthfulness. The precursor to the original PCL was a 7-point scale used by Hare and his colleagues, which rated the extent

to which incarcerated adult offenders matched Cleckley's description of a psychopathic individual (Hare, 2003).

To increase the utility of the 7-point rating scale it became necessary to develop a more precise instrument for the assessment of psychopathy in offenders. In response, Hare developed the first version of the Psychopathy Checklist based on file information and interviews collected from a sample of 143 male prison inmates (Hare, 1980). Twenty-two characteristics were identified that discriminated between individuals who had high and low ratings of psychopathy and were incorporated into a checklist with a 3-point scale for each item. Hare (1980) correlated factors from this checklist with Cleckley's criteria and found there was a high degree of agreement between these two measures. As more researchers and clinicians began using the PCL, it was determined that further improvements could be made to the instrument while still maintaining the original content. This resulted in the publication of the PCL-R in 1991. This revision to the PCL included omitting two items, making it a 20-item scale, as they were difficult to score and had low correlations with the total score. Other changes involved more rigorous requirements for a score of 2 on some items (Hare et al., 1990). In a study of 925 males in correctional institutions and 356 male forensic psychiatric patients, Hare et al., found that the revised PCL was a reliable and valid instrument. The correlation between the PCL and PCL-R total scores was .88. Since its publication in 1991, there have been numerous articles, reviews, and book chapters on the PCL-R providing further support for its psychometric properties. The significant amount of data now available has lead to a second edition of the PCL-R (Hare, 2003); which presents further research in the PCL-R manual on its reliability, validity, and generalizability to different populations.

However, Hare reported that no changes were made to the actual scoring criteria at the risk of altering the meanings of the items. Thus, the PCL-R, in its current form, has kept much of its continuity with what was originally conceptualized of psychopathy by Cleckley.

Antisocial Personality Disorder vs. Psychopathy

Hare's development of a standardized assessment instrument to distinguish groups of offenders arose out of changes to the official criteria for a diagnosis of Antisocial Personality Disorder (ASPD; Hare, 1980). ASPD was at one time nearly interchangeable with the definition of psychopathy. However, changes to the diagnosis of ASPD over the past 20 years, have resulted in decreased utility for predicting criminal behavior. Specifically, the changes in the definition of ASPD can largely be attributed to conceptualizations that are historically either personality-based or behavior-based (Cale & Lilienfeld, 2002; Lilienfeld, 1994). The second edition of American Psychiatric Association's (APA) *Diagnostic and Statistical Manual of Mental Disorders (*DSM-II; APA, 1968) described ASPD as primarily personality- based. The DSM-II considered a history of antisocial behavior to be neither necessary nor sufficient for a diagnosis of ASPD. However, with the development of the DSM-III (APA, 1980) and subsequent editions of the manual (i.e., DSM-III-R, DSM-IV, and DSM-IV-TR), there was a departure from the traditional personality-based description of ASPD and a move towards a behavioral emphasis. This change was brought about as the DSM-II focus on specific personality features was thought to be too subjective and difficult to measure reliably, whereas observable behaviors were easier to standardize (Cale & Lilienfeld; Hare, 1996; Lilienfeld). Hare reported that although the DSM-III changes have resulted in fairly

objective diagnosis, he suggested it lacks usefulness as, "the diagnosis of antisocial personality disorder becomes almost synonymous with criminality" (p. 112). The DSM-IV-TR (2000) continues to focus more on the behavioral components of ASPD and describes the essential feature as, "a pervasive pattern of disregard for, and violation of, the rights of others" beginning at an early age (p.701).

Research support for the PCL-R

Despite the DSM-IV-TR (APA, 2000) listing mainly antisocial behaviors in the formal diagnostic criteria, the "Associated Features" section for ASPD describes many features of Cleckley and Hare's conception of the psychopathic personality, such as, superficial charm, lack of empathy, callousness, and inflated self appraisal. The DSM-IV-TR goes on to state that, "traditional conceptions of psychopathy…may be particularly distinguishing of the disorder [ASPD] and more predictive of recidivism in prison or forensic settings where criminal, delinquent, or aggressive acts are likely to be nonspecific" (p. 703). Several studies have examined the prevalence of ASPD and psychopathy in prison and forensic settings and have found significantly higher percentages of ASPD than psychopathy (see Widiger and Corbitt, 1995 for a summary). For example, Hart and Hare (1989) found that in a sample of 80 males remanded to a forensic unit, 50% met the criteria for ASPD outlined in the DSM-III, whereas 12.5% were diagnosed with psychopathy by an earlier version of the PCL. As well, the DSM-IV-TR reports the prevalence of ASPD in clinical populations to be between 3 – 30% depending on the characteristics of the sample. It also states that, "Even higher prevalence rates are associated with substance abuse treatment settings and prison or forensic samples" (p.704). It is evident that ASPD is a far more inclusive diagnosis than

is psychopathy, which focuses on specific affective and interpersonal components. As summarized by Hare (1996), "a diagnosis of ASPD has limited utility for making differential predictions of institutional adjustment, response to treatment, and behavior following release from prison" (p. 39). Clearly, it would be useful to identify a subset of individuals with ASPD that are at a higher risk of reoffending and may also benefit from specific treatment programs. This is largely what the PCL-R endeavors to do and numerous outcome studies support both the validity and reliability of the PCL-R with groups of male offenders (e.g., Fulero, 1995; Hare, 2003; Millon, Simonsen, Birket-Smith, & Davis, 1998). Results of many studies indicate that adults in correctional and forensic settings scoring high on the PCL-R recidivate quicker, more frequently, and with increased violence upon release from institutions than do other offenders (e.g., Grann, Langstom, Tengstrom, & Kullgren, 1999; Hare, Clarke, Grann, & Thornton, 2000; Harris, Rice, & Quinsey, 1993). Studies finding a significant relationship with violent behavior (e.g., Hart & Hare, 1997; Salekin, Rogers, & Sewell, 1996) have been of particular interest to clinicians. Hare (2003) suggests that the relationship between the PCL-R and offending is even more meaningful as it occurs in research samples where criminal behavior is the norm.

Psychopathy in Adolescence

There is growing interest in extending the concept of psychopathy in adulthood to childhood and adolescence. This is based on the assumption that psychopathic characteristics do not suddenly emerge in adulthood but are manifested at an early age and are stable over the lifespan (Forth, Kosson, & Hare, 2003; Forth, Hart, Hare, 1990; Lynam, 1997). As numerous studies have found significant associations between

psychopathy and general and violent offending with adult male populations, it provides a solid foundation for investigating psychopathy in adolescents engaging in antisocial and criminal behavior.

Identifying common characteristics of particular groups of offenders may greatly assist in the prediction of those at highest risk of continuing criminal behavior. There has been a significant amount of research directed towards pathways leading to adolescent and eventual adult criminality (Edens, Skeem, Cruise, & Cauffman, 2001; Loeber & Stouthamer-Loeber, 1998). One well known theorist and researcher in the area is Terrie Moffitt (1993), who sought to differentiate adolescents that commit occasional, minor offenses from those that are at risk for more serious, long-term criminality. Her theory is supported by ongoing longitudinal research based upon a cohort of New Zealand children who have been followed from age 3 to 18 and are continuing to be followed into adulthood (Moffitt, Caspi, Dickson, Silva, & Stanton, 1996; Moffitt & Caspi, 2001) Moffitt identified two groups of offenders, which she termed "life-course-persistent delinquents" (LCPDs) and "adolescence-limited delinquents" (ALDs). This theory suggests that LCPDs show a pattern of difficulties beginning in childhood, including neuropsychological deficits, weak bonds to family, psychopathic personality traits and higher rates of violent offenses (Moffitt et al.). As well, they continue their involvement with antisocial, criminal activity after adolescence has ended and well into adulthood. In contrast, ALDs emerge with puberty and engage in criminal activity occasionally with more minor offenses such as theft, vandalism, and illegal drug use. This behavior is motivated by a desire to gain access and power that adults have, affiliate with peers, and become autonomous. Moffitt and Caspi suggest that, "Adolescent-limited antisocials are

common, relatively temporary, and near normative. Life-course persistent antisocials are few, persistent, and pathological" (p. 356). Based upon Moffitt's research, one can see how the development of an assessment tool, such as the PCL:YV, could prove to be a useful instrument for clinicians in identifying adolescent offenders most at risk of continuing in a pattern of criminal behavior when released to the community.

Development of the PCL:YV

The PCL:YV was adapted from the PCL-R as a way of extending the assessment of psychopathy in adults to adolescents. Its development was in part based on the assumption that psychopathic characteristics do not spontaneously appear as an adult; rather individuals' traits and behaviors emerge early in life (Forth, Kosson, & Hare, 2003). The PCL:YV is a 20-item rating scale with a detailed description following each item (see Appendix A for list of items). The items measure the interpersonal, affective, and behavioral components of psychopathy. As the PCL:YV is based upon the PCL-R, many of the items have remained the same. However, modifications were made to items to make them more appropriate for rating adolescents. Although the general content and 20-item format is the same, all of the 20 items have been modified to greater and lesser extents. Several items underwent minor modifications (items 1, 2, 5, 9, and 15) to reflect less life experience among adolescents, whereas others had major modifications for how the items were coded (items 17, 18, 19, 20). For example, scoring and descriptions were changed for items relating to juvenile delinquency (18) and criminal versatility (20) as adolescents have not had the same opportunity to come in contact with the law that adults have. As well, item 17, which is "many short-term marital relationships" on the PCL-R, was clearly inappropriate for an adolescent population. It is now described as "unstable

interpersonal relationships" and includes nonsexual relationships as well.

Description of PCL: YV Normative Sample

As described in the PCL:YV technical manual (Forth et al., 2003), data were collected on 2348 adolescents in Canada, United States, and United Kingdom. There were a total of 19 different samples; 11 samples were taken from correction or inpatient facilities, five samples were from probation, open custody, or outpatients, and three samples were taken from the community. The PCL:YV total scores differed according to these settings; with institutionalized samples having the highest scores and community samples obtaining the lowest.

Both males and females were assessed in six samples and one sample assessed only adolescent female offenders. Historically, psychopathy has been assessed in males alone; however, recent research has begun to assess the construct of psychopathy in females. Research with the PCL-R has found that adult females obtain similar scores to adult males on the PCL-R (Hare, 2003; Vitale & Newman, 2001). With adolescent females, the authors of the PCL:YV found that based on the outcome of the six samples, gender is not a major factor in influencing PCL:YV total scores.

PCL:YV and Recidivism in Adolescents

Several years prior to the publication of the PCL:YV, researchers used a modified version of the PCL-R, making it more appropriate for youth, to assess psychopathy in a male young offender population. One of the major findings reported was that high scores on the modified checklist were associated with violent recidivism. Using an 18-item modified version of the PCL for youth, Forth, Hart, & Hare (1990), investigated the psychometric properties of PCL scores with a sample of 75 male young offenders

incarcerated in a maximum-security institution. The two items omitted from the PCL were items 9 (parasitic lifestyle) and 17 (many short-term marital relationships). Background information was collected from institutional files and subjects' progress through the criminal justice system was tracked for approximately 2 to 3 years. The authors defined recidivism as any charge or conviction for an offense upon release. The correlation between the PCL and recidivism was .14 and the correlation between the PCL and number of nonviolent charges or convictions was .00. Neither correlation was significant. However the correlation between the PCL and number of charges or convictions for violent offenses was significant, with a correlation of .26. A significant relationship was also found between PCL scores and the number of previous violent offenses (r = .27) Forth et al. suggested that although the magnitude of the correlations were small, it was encouraging to find the PCL was able to make differentiations within a homogeneous group of high recidivating young offenders.

Brandt, Kennedy, Patrick, and Curint (1997) also used a modified version of the PCL-R for youth to assess psychopathy in a group of incarcerated adolescent offenders. 130 males at a residential training facility for juvenile-delinquent boys were followed up for 18-24 months to see who had been rearrested. The PCL-R assessments were based on file information. Participants in their study were classified as low, medium, and high scorers on the PCL-R. Using a survival analysis, they found no significant differences between groups for the time until a nonviolent offense occurred. Survival analyses estimates the time it takes to reoffend and the proportion of youths who have not reoffended at each month of follow-up (i.e., who has "survived"). Brandt et al. found a significant difference between the high PCL-R group and the low PCL-R group for the

amount of time for any new offense to occur and for the time until a violent offense occurred, with the high PCL-R group reoffending sooner. As well, using a hierarchical regression analysis, Brandt et al. found that PCL-R scores significantly contributed to the prediction of general recidivating.

Ridenour, Marchant, and Dean (2001) examined the utility of predicting future delinquency using the PCL-R with a group of 80 male adolescents in a one-year prospective study. Adolescents in the sample were recruited from three high schools and a juvenile justice residential unit. The authors found that the PCL-R scores correlated with the total number of charges (r = .62), number of nonviolent charges (r = .59), and number of violent charges(r = .48). The level of significance was not reported.

With the recent development and publication of the PCL:YV, more research measuring psychopathy and its association with adolescent offending behavior has emerged. As the PCL:YV is a new instrument, research on its psychometric properties is in the early stages. However, several studies have been completed that have found similar results to those for adults. Results between studies vary somewhat and are described below.

O'Neill, Lidz, and Heillbrun (2003) assessed, retrospectively, psychopathic characteristics, treatment process, and outcomes with a sample of 64 male adolescents who were court adjudicated to a hospital treatment program due to substance abuse problems. The treatment program excluded individuals with significantly violent and sexual offenses as well as those with a major mental disorder. PCL:YV scores were based on pretreatment historical information. Interrater reliability was assessed using the intraclass correlation coefficient and was found to be .86 for the total score. One

outcome variable examined was recidivism, which was measured by the number of arrests in a 12 month period following the last day of the treatment program. Arrests made for violent and nonviolent offenses were not distinguished from each other. O'Neill et al. found that PCL:YV total scores were significantly related to the number of arrests for the entire sample ($r = .33$, $p<.01$) during a 12 month period after treatment completion.

Gretton, McBride, Hare, O'Shaughnessy, and Kumka (2001) investigated psychopathy in a sample of adolescent sex offenders. The sample consisted of 220 adolescent males convicted or charged with a sexual offense who were directed by the courts to attend a sexual offender outpatient treatment program. Data were collected through file reviews and the offenders' criminal charges and convictions were followed from 7 to 106 months upon discharge from the program. Failures or reoffending was defined as any charge or conviction that occurred in the follow-up period. All charges and convictions were coded as general offenses. Violent offenses and sexual offenses were coded separately. Based upon point-biserial correlations, the correlation between PCL:YV scores and general offending was .25 ($p<.01$) and the correlation between PCL:YV scores and violent offending was .19 ($p<.01$). No significant relationship was found between PCL:YV scores and sexual offending (.09). In summary, Gretton et al., reported a significant positive relationship between the PCL:YV and general, violent, and nonviolent rates of recidivism.

In a one-year follow up of 74 young violent offenders, Catchpole and Gretton (2003) examined the ability of several risk assessment measures, including the PCL:YV, to predict recidivism. PCL:YV scores were based upon retrospective file information and

all charges and convictions occurring within a one-year period after discharge were recorded. Subjects were classified into groups according to low, medium, and high scores on the PCL:YV. Survival analyses revealed that the high PCL:YV group was significantly different from the medium and low PCL:YV groups for general recidivism. In other words the high PCL:YV group recidivated sooner upon release from incarceration. For the time until a violent offense occurred, the high PCL:YV group only differed significantly from the low group. To investigate general and violent reoffending the authors used an analysis that computes the area under the curve (AUC). The authors describe an AUC as the probability that an adolescent who recidivated will score higher on a specific risk assessment measure than an adolescent who did not recidivate (p. 698). Based on this analysis, Catchpole and Gretton found there was a 74-78% chance that a youth who reoffended would score higher on the measure than one who did not reoffend. Results were similar for both general and violent reoffending.

Gretton, Hare, and Catchpole (2004) examined validity of the PCL:YV to predict offending behavior in a sample of adolescent offenders over a 10-year follow-up period which extended to early adulthood. The sample consisted of 157 male adolescent offenders who underwent assessment at a forensic psychiatric institution. PCL:YV scores were completed retrospectively, based on information in institutional files, and all offenses were recorded prior to the assessment and for the 10-year follow-up period. Offenses were divided into violent, non-violent, and sexual offense categories. PCL:YV scores were treated as a continuous variable and also were divided into low (<18), medium (18-29) and high (>29) scores to examine group differences. Point-biserial correlations were computed between PCL:YV total scores and recidivism (recorded as

either yes/no) for the 10-year period. No significant relationships were found with non-violent or sexual recidivism. However, there was a significant relationship between PCL:YV scores and violent recidivism ($r = .32$, $p<.001$). The authors also investigated if individuals with higher PCL:YV scores recidivated sooner following discharge by correlating PCL:YV scores with time to first offense. Gretton et al. found a significant negative correlation between the PCL:YV score and time to first violent offense ($r = -.40$, $p < .001$) and first non-violent offense ($r = -.22$, $p = .005$). This indicates that those with higher PCL:YV scores reoffended more quickly than those with lower scores. No significant relationship was found with sexual offenses. Additionally, they used survival analyses to compare group differences in the proportion of adolescents that remained free of offenses based on time spent in the community. Results of this analyses revealed that high and medium PCL:YV groups violently recidivated significantly earlier than the low PCL:YV group. No significant group differences were found with non-violent and sexual offending.

Two unpublished doctoral dissertations have also used the PCL:YV to examine the relationship between psychopathy and recidivism. Using retrospective data, Jack (2000) followed a group of 150 male adolescent offenders for one and one half to three years upon release from an institution. Jack found no significant correlation between PCL:YV scores and violent recidivism ($r = .09$) or nonviolent recidivism ($r = .17$) as measured by the number of new convictions. However, Rowe (2002) examined the predictive validity of the PCL:YV with 408 young offenders and found a significant correlation with both general ($r = .36$) and violent ($r = .29$) recidivism.

In summary, there are several fairly consistent results across studies using both the modified PCL-R for youth and the PCL:YV to investigate its association with recidivating. First, in studies where the PCL:YV and amount of time to recidivate was investigated, those with high scores on the PCL:YV recidivated sooner (Brandt et al., 1997; Catchpole & Gretton, 2001; Gretton et al., 2004). Second, most studies found a modest but significant relationship between PCL:YV scores and violent reoffenses. The results were mixed in regards to nonviolent and general recidivism with several studies reporting a modest association with the PCL:YV or modified PCL-R(e.g., Gretton et al., 2001; O'Neill, 2003; Rowe, 2002;) and other finding no significant relationship (e.g., Forth et al., 1990; Gretton et al., 2004).

PCL:YV and Criminal History

Research has also been completed on the association between previous charges and convictions and scores on the PCL:YV as a means of identifying behavioral correlates to understand the construct of psychopathy in adolescents (Campbell, Porter, & Santor, 2004). For example, Gretton et al. (2004) examined the relationship between criminal history and PCL:YV scores. They found a significant relationship between PCL:YV scores and previous violent offending ($r = .20$, $p = .013$); the relationship with previous sexual and non-violent offending was not significant. As well, when comparing the 3 groups of PCL:YV scores, the high PCL:YV group was more likely to have had a prior violent offense than the low group.

Several other studies have also investigated the association between PCL:YV scores and criminal history and have found similar results to Gretton et al. (2004). In a sample of adolescent males on probation, Kosson, Cysterski, Steuerwald, Newumann, &

Walker-Matthews (2002) found a significant relationship between PCL:YV scores and previous violent ($r = .27, p < .01$) and non-violent ($r = .35, p < .001$) crimes. In another recent study, a group of researchers correlated PCL:YV scores with previous criminal charges in a sample of 130 adolescent males (Salekin, Neumann, Leistico, DiCicco, and Duros, 2004). Salekin et al. found significant positive correlations between PCL:YV scores and the total number of previous charges ($r = .36, p < .01$), violent charges ($r = .28, p < .01$), and non-violent charges ($r = .30, p < .01$). A recent study by Campbell et al. (2004) was somewhat inconsistent with the above results. In a sample of 226 adolescents incarcerated or on remand, Campbell et al. found that PCL:YV scores were unrelated to prior violent and non-violent convictions. However, they also compared criminal profiles and found that adolescents with a history of mainly non-violent offenses had significantly lower PCL:YV scores on average compared to adolescents with a history of primarily violent offenses.

Purpose of the Present Study

The purpose of the present study is to add to the limited research on the assessment of psychopathy in adolescents using the recently published PCL: YV. Forth et al. (2003) acknowledge that research with the PCL:YV is in its early stages and further investigation is needed into its clinical utility. Therefore, this study replicates previous research summarized in the above literature review, using retrospective, correlational data, to examine the validity of the PCL: YV in predicting recidivism with a group of incarcerated adolescent males in a treatment program. Based upon the available research presented in the above review of the literature, several main hypotheses have been developed:

1) Adolescents with higher PCL: YV scores will have higher rates of general and violent recidivism than those with lower PCL:YV scores. As well, a significant positive correlation will exist between PCL:YV total scores and rates of general and violent recidivism. It is also expected that, when comparing individuals who reoffended one or more times with those who remained offense free, adolescents who recidivated will have significantly higher PCL:YV scores as well as more previous charges.

2) Adolescents with higher PCL: YV scores will recidivate earlier upon release from custody than those with lower PCL: YV scores. As well, a significant negative correlation will exist between adolescents' PCL:YV total scores and number of days until reoffense.

3) A significant positive correlation will be found between PCL:YV total scores and the amount of time spent in incarceration during the three-year follow up period.

4) A significant positive correlation will exist between the number of previous violent and non-violent offenses and PCL:YV scores.

Methodology

Sample

The sample consisted of adolescents that were charged and/or convicted of one or more violations under the Canadian Young Offenders Act. Cases were selected from a 19-bed inpatient unit at Alberta Hospital Edmonton between January 1, 1998 and December 31, 2001. This inpatient unit is part of Northern Alberta Forensic Psychiatry Services and the adolescent program consists of males and females, ages 12-18, which are in conflict with the law and are legally mandated for assessment and treatment services. Prior to admission to the assessment and treatment program, these adolescents were awaiting their court date at a remand center or were serving out their sentence at a young offender center. The sample size was 100 randomly selected cases. During data analysis it was discovered that there was insufficient criminal record information on three cases. Another two cases were eliminated as they had very serious charges and were incarcerated for the entire period that offenses were being recorded; as a result, their offending behavior was obviously limited. Therefore, the final sample consisted of 95 cases. Females were excluded due to insufficient numbers as well as possible gender differences. The average age at the time of discharge from hospital was 15.8 years (SD = 1.3). Ages for this sample ranged from 12.3 to 18.6 with a median of 16.1. Historical data from each file was used to complete retrospectively the PCL:YV. Information available in the files includes social history, psychiatric and psychological evaluations, police statements, offense type, and daily progress notes recorded by interdisciplinary team members.

Treatment vs. Remand Adolescents

The adolescent program consists of both remand assessments and those admitted for treatment. As the same information is collected on all individuals admitted regardless of their treatment or remand status, both groups were included in the selection procedure for the current study. After random selection of cases between 1998 and 2001, the total sample consisted of 26 treatment and 69 remand adolescents (the five excluded cases mentioned above were all remand). This is representative of the total unit population in a given year as significantly more remand adolescents are admitted due to a shorter length of stay. On average, two-thirds of admissions per year are remand assessments and the other one-third is admitted for treatment. Comparisons were made between the adolescents admitted for treatment and those admitted for assessment while on remand in order to examine group differences in the overall sample of 95 youths. Averages were computed for ages, previous charges, rates of recidivism, the number of days to recidivate, and the number of days incarcerated. The means were compared using *t*-tests. Results of the mean comparisons of groups are presented in Table 1. The average age for the 26 treatment cases upon discharge was 16.7 (*SD* = 1.1) and the average age for the 69 remand cases was 15.5 (*SD* = 1.2). The treatment adolescents have significantly higher PCL:YV scores than the remand youth, with a difference of 4.99 points. As well, rates of general recidivism and total previous charges were higher for the treatment adolescents. No significant differences were found for past or future violent offenses. It was expected that PCL:YV scores and number of offenses may be higher for those admitted for treatment as they have already been convicted of one or more offenses and have served

time in a young offender center. This suggests a higher level of severity and/or frequency in the offenses committed by the adolescent treatment population.

Table 1.

Comparison of Outcome Means: Remand vs. Treatment Groups (N=95)

	Treatment (M_1)	*Remand* (M_2)	*Difference* (M_1- M_2)
PCL:YV score	20.77	15.78	4.99**
Age	16.65	15.52	1.12**
Total Previous charges	27.46	10.87	16.60**
Previous violent charges	1.96	1.77	0.19
General Recidivism	7.78	3.80	3.98*
Violent Recidivism	0.46	0.29	0.17
Non Violent Recidivism	7.33	3.51	3.81*
# of Days to Recidivate	378.04	569.33	191.23
# of Days Incarcerated	150.50	85.29	65.21

*$p < .05$. ** $p < .01$.

Measures

Description of the PCL:YV

The total score for the PCL:YV ranges from 0 – 40. Each item is rated on a 3-point ordinal scale, with a score of 2, 1, or 0. A score of 2 reflects that the item applies and is a fairly strong match; a score of 1 suggests the item applies somewhat but there is a degree of uncertainty; when the item does not apply a score of 0 is given. The authors of the PCL:YV (Forth et al., 2003) also have a category for omitted items if there is insufficient information available. They suggest this should only be used when absolutely necessary and, if more than five items are omitted, the PCL:YV should not be used due to a decrease in reliability.

The technical manual suggests that ratings can be made without interviewing the adolescent when the individual is uncooperative or the rating is being used for the purpose of retrospective research (as is the case with this current study). Other studies have also found support for the reliability and validity of assessments made from file information alone with the PCL-R (e.g., Gran, Langstrom, Tengstrom, & Stalenheim, 1998; Rice & Harris, 1997; Wong, 1998) and PCL: YV (e.g., Brandt et al., 1997; Campbell et al., 2004; Gretton et al., 2001; O'Neill et al., 2003). In this case, it is necessary to have comprehensive, well-documented information available in historical files.

Establishing Cut-off Scores for the PCL:YV

To examine the group differences in outcome variables, cut-off scores were used for the PCL:YV total scores. There is currently no cut-off scores recommended for the PCL:YV (Forth et al., 2003). For research with adult populations, a score of 30 or above on the PCL-R is typically used to define psychopathy (Hare, 1991, 2003). Researchers using the PCL:YV often compare groups of adolescents according to low, medium, and high scores. However, there has been some variation with cut-off scores used for each group. Gretton et al. (2004) defined high scores as 30 and above, medium are scores between 18 and 29, and low are score less than 18, as is often used with the PCL-R. However, Campbell et al. (2004) have lowered the cut-off scores, with high scores being 25 or above, medium 20-24, and low 19 or below. They reported to lowering the cut-off score to 25 due to the possibility of underestimating adolescent's scores with file only information. Murrie and Cornell (2002) also lowered the cut-off score to 25. For the purposes of this present study, a score of 25 and above will also be used, as data were

collected based on file information alone. PCL:YV scores between 18-24 will be coded as medium and those below 18 will be classified as low.

Procedures

Defining Recidivism

Studies have varied according to how they classify adolescent offender behavior. Some researchers have recorded all charges and convictions, while others have included convictions alone. For this present study, charges and convictions were first recorded separately and were then each correlated with PCL:YV scores to examine the differences. As the correlations were similar, it was decided to record only the charges for analysis. As well, recording convictions alone may be an under-representation of offending behavior as not all charges result in a conviction.

Recidivism has also been classified in several ways. The four commonly used categories are general recidivism, violent recidivism, non-violent recidivism, and sexual recidivism. For this study, general, violent, and non-violent reoffending was recorded. General recidivism included all charges and convictions, both violent and non-violent. Violent recidivism consisted of all violent offenses, including sexual offenses, and non-violent offenses included all other offenses that were not considered violent.

Criminal History

All charges and convictions prior to the adolescents' admission to the forensics unit were obtained from file records. Criminal histories are made available when individuals are admitted to the adolescent program. Charges and convictions were also classified by general, violent, and non-violent categories.

Outcome Variables

Offense data was available through Alberta Correctional Offender Management Information System (CoMIS). CoMIS is an up to date system that tracks all offenses within the province of Alberta, keeping track of both charges and convictions. All offenses committed that occurred within the province of Alberta during the three-year follow-up period were recorded. The following is a brief description of all outcome variables for the three-year follow-up period.

Number of days incarcerated. The total number of days incarcerated was obtained through CoMIS as all dates of incarceration and release are recorded. The separate periods of incarceration were then summed together for the three-year follow-up to obtain the total amount of time spent in incarceration.

Rate of recidivism. To calculate the recidivism rate, it was necessary to account for the time spent reincarcerated, as there is no opportunity to reoffend during periods of incarceration. The total number of days spent incarcerated was subtracted from the number of days in three years to determine the total number of days spent in the community during the follow-up period. In effect, the number of days free represents their opportunity to reoffend during the three-year follow-up. This value was used to calculate the rate of offending per year free by taking the total number of charges and convictions and dividing them by the number of days free.

Types of offenses. Offenses included categories for both charges and convictions. Offenses were coded as either violent or nonviolent crimes. A coding scheme developed by the Forensic Division, Department of Psychiatry in Calgary was used in order to code offenses. This coding scheme is largely based on the sentencing guidelines outlined in

the Criminal Code of Canada. Violent crime categories include homicide, assaults, sexual assaults, other sexual offences, abduction, robbery, miscellaneous violence, and communication offences. Non-violent crimes are categorized as theft, other property crimes, offensive weapons, miscellaneous, court related infractions, impaired driving, dangerous operation of motor vehicle, miscellaneous motor vehicle, and other legislation

Charges and convictions. Charges and convictions, as well as violent and non-violent charges and convictions, were recorded separately. This was done to investigate possible differences in the relationship between PCL:YV scores and charges and convictions. It was thought that total charges may be an overrepresentation of criminal activity whereas convictions may underestimate criminal behavior.

Time until first offense. The date of first charge or conviction upon release to the community was subtracted from the date of release from incarceration to determine the number of days before reoffending.

Ethics Approval

Ethical approval was obtained from the University of Alberta's Health Research Ethics Board and the Faculties of Education and Extension Research Ethics Board. Operational approval was given by Alberta Hospital Edmonton's Research Coordination Committee and the clinical director of Northern Alberta Forensic Psychiatry Services. Confidentiality was assured through a data coding system; no identifying information was obtained from the file or recorded.

Results

Inter-rater Reliability

Independent ratings were carried out by two researchers on 20 cases to obtain estimates of reliability. Other studies have reported good inter-rater reliability using an intraclass correlation coefficient (ICC) between two or more raters. For example, O'Neill et al. (2003) reported an ICC of .86 (n = 64), Gretton et al. (2001) reported an ICC of .91 (n = 50), and Campbell et al. (2004) reported an ICC of .95. An ICC of .70 or greater is generally considered an acceptable level of inter-rater reliability. The intraclass correlation coefficient (ICC) for PCL:YV scores was calculated according to the method of Shrout and Fleiss (1979). A two-way random effects model was used as the same two raters scored each of the 20 cases and the raters were considered a random sample from the larger population. Based upon 20 cases, the ICC was 0.95, which is consistent with the above intraclass correlations reported.

Description of the Sample

In order to have a more comprehensive picture of the adolescent sample, descriptive statistics were generated for several variables. Presented below are summaries of the adolescents' previous offending behavior and offending behavior during the three-year follow-up period. As well, the distribution of scores on the PCL:YV are presented.

Criminal History

The means and standard deviations for adolescents' general, violent, and non-violent offense histories prior to admission to the forensics program are presented in Table 2. These results are based upon all previous charges available in CoMIS. Overall,

65% of the sample had a least one previous violent offense. However, the number of violent offenses that occurred was significantly lower ($M = 1.82$) than the number of non-violent offenses ($M = 15.00$).

Table 2.

Descriptive Statistics of Criminal History (N = 95)

Criminal History	*M*	*SD*	*Mode*	*Mdn*	*Range*
Total previous charges	15.41	15.64	2	11	1 – 86
Violent charges	1.82	2.43	0	1	0 – 11
Non-violent charges	15.00	13.60	2	9	1 - 82

PCL:YV Scores

The means and standard deviations of the PCL:YV scores for the sample are presented in Table 3. As well, means and standard deviations for the low, medium, and high scoring PCL:YV adolescents are presented. Total scores ranged from 5 to 35 with a mean score for the entire sample of 17.2 and a standard deviation of 6.2. These scores are lower than average scores reported in other studies using a similar population of institutionalized offenders. Specifically, previous researchers have reported average PCL:YV scores in the low to mid 20's (e.g., Catchpole & Gretton, 2003; Forth et al., 1990; Gretton et al., 2001; Kosson et al, 2002; O'Neill et al., 2003). The majority of the adolescents' scores (65%) fell within the low PCL:YV range (≤ 18) based upon the predetermined cutoff score. Only 15% of the total adolescent sample obtained a score of 25 or greater.

Table 3.

Means and Standard Deviations of PCL:YV Scores

Group	*N*	%	*M*	*SD*
All	95	100	17.15	6.23
Low[a]	62	65	13.44	3.82
Medium[b]	19	20	22.16	1.64
High[c]	14	15	26.79	2.55

[a]PCL:YV Scores ≤18
[b]18 < PCL:YV Scores < 25
[c]PCL:YV Scores ≥25

Outcome Variables

Before correlations were calculated for recidivism, number of days to recidivate, and the number of days incarcerated, descriptive statistics were generated first for each outcome variable. Means and standard deviations for recidivism rates, the number of days until a reoffense occurs, and the number of days incarcerated over the three-year follow-up period are presented in Table 4. The average number of charges and convictions per year for the entire sample was 4.9 (*SD* = 6.8).

Table 4.

Descriptive Statistics of Outcome Variables (N = 95)

Outcome Variable	*M*	*SD*	*Range*
General recidivism	4.89	6.80	0-28.96
Violent recidivism	0.33	0.72	0-3.85
Non-violent recidivism	4.56	6.40	0-28.28
# of days to recidivate	516.98	485.13	1-1095
# of days incarcerated	103.14	168.84	0-715

Note. Recidivism rates are based on the number of charges and convictions per year.

PCL:YV and Recidivism

In order to test the hypothesis that a significant positive correlation would be found between PCL:YV total scores and rates of general and violent recidivism, Pearson's product – moment correlations were calculated between the PCL:YV and general, violent, and non-violent recidivism. To examine this relationship, 2-tailed tests of association were used. Results of this analysis are presented in Table 5. Significant correlations were found between PCL:YV scores and rates of general recidivism ($r = .25$, $p < .05$) and non-violent recidivism ($r = .25$, $p < .05$), consistent with the study's hypothesis. No significant correlation was found with rates of violent recidivism, failing to support the hypothesis.

Table 5.

Pearson Product-Moment Correlation Coefficients Between PCL:YV Scores and Outcome Variables (N = 95)

Outcome Variable	*r*
General recidivism	0.25*
Violent recidivism	0.11
Non-violent recidivism	0.25*

*$p < .05$

Group differences between low (≤ 18), medium (19 – 24), and high (≥ 25) PCL:YV scores on mean rates of recidivism were compared to test the hypothesis that adolescents with higher PCL:YV scores will have higher rates of general and violent recidivism. As can be seen in Table 8, no significant differences were found, failing to support the hypothesis.

Finally, to test the hypothesis that adolescents who remained offense free for the three-year follow-up period would have significantly lower PCL:YV scores, as well as less previous charges, than adolescents who committed one or more offense,independent samples *t*-tests were calculated for PCL:YV scores and previous criminal offenses. Overall, 63 % of the adolescent sample reoffended during the three-year follow-up period and 31 % of offenders committed at least one violent offense. Differences in mean number of offenses and PCL:YV scores for those who did and did not reoffend are presented in Table 6. Significant group differences existed between adolescents who reoffended at least once and those who remained offense free for mean PCL:YV scores and total previous charges.

Table 6.

Comparison of PCL:YV Means: Re-Offenders (N = 65) vs. Non Re-Offenders (N = 30)

Outcome variables	Re-Offenders (M_1)	Non Re-Offenders (M_2)	Difference (M_1- M_2)
PCL:YV Scores	18.20	14.87	3.33*
Total previous charges	19.15	7.30	11.85**
Total violent charges	1.97	1.50	0.47

*$p < .05$. **$p < .001$

PCL:YV and Number of Days to Recidivate

To test the hypothesis that higher scores on the PCL:YV are associated with fewer days until a reoffense, Pearson's correlation was calculated for the PCL:YV and number of days to recidivate. The correlation was not significant. To investigate if adolescents with high PCL:YV scores recidivated earlier upon release from custody than those with low PCL:YV scores, the mean amount of time was compared between adolescents with

low, medium, and high scores on the PCL:YV. No significant differences were found between any of the three groups.

PCL:YV and Number of Days Incarcerated

In order to test the hypothesis that a significant positive relationship exists between PCL:YV scores and the number of days incarcerated, PCL:YV scores were correlated with the total amount of time spent re-incarcerated during the three-year follow-up period. The correlation between PCL:YV scores and time spent in incarceration was not significant ($r = 0.17, p>.05$). When comparing groups of low, medium, and high PCL:YV scorers, there were also no significant differences between any of the three groups' mean amount of time in incarceration.

Offending History

To test the hypothesis that a significant positive correlation exists between the number of previous offenses and PCL:YV scores, Pearson's correlation was calculated between PCL:YV scores and all previous charges and previous violent charges alone. Previous criminal charges were also correlated with age upon discharge from hospital. Several significant correlations were found and results are presented in Table 7. For previous violent charges, age upon discharge from hospital was the only variable significantly correlated ($r = .25, p < .05$)

To examine the relationship between previous criminal behavior and future offending behavior, all pre-assessment violent and nonviolent charges were correlated with general and violent recidivism during the three-year follow-up period. Correlations were also computed between all prior charges and the time until first offense upon release. Results of this, along with correlations between previous charges and outcome

variables, are presented in Table 7. The total number of previous charges was significantly correlated with both general ($r = .38, p < .01$) and violent recidivism ($r = .35, p < .01$). As well, total previous charges was negatively correlated with the number of days to recidivate, indicating that the more previous charges incurred by an individual, the greater the likelihood of offending sooner upon release from incarceration.

Table 7.

Pearson Product-Moment Correlation Coefficients Between Previous Charges and PCL:YV Scores, Age, and Outcome Variables (N = 95)

	Previous Charges *r*	Previous Violent Charges *r*
PCL:YV scores	0.35**	0.07
Age	0.44**	0.25*
General recidivism	0.38**	0.03
Violent recidivism	0.35**	0.12
# of days to recidivate	-0.34**	-0.12
# of days incarcerated	0.24*	-0.24

*$p < .05$. **$p < .01$

An additional analysis was done using an independent samples *t*-test to compare the mean number of previous charges and age upon discharge between low, medium, and high PCL:YV scores. Significant differences existed for both age and criminal history between low and high scorers on the PCL:YV. Specifically, adolescents with high PCL:YV scores had more previous charges and were also older. Results for the low and high PCL:YV groups are presented in Table 8. As well, Table 8 presents a summary of comparison of means for the outcome variables, including recidivism, number of days to recidivate, and time spent incarcerated.

Table 8.

Comparison of Age, Criminal History, and Outcome Means: Low vs. High PCL:YV Scores (N=95)

Outcome Variables	Low PCL:YV Scores (M_1)	*High PCL:YV Scores* (M_2)	*Difference* (M_1- M_2)
Age	15.6	16.2	0.6*
Previous charges	10.74	23.00	12.23*
General Recidivism	4.19	5.03	0.83
Violent Recidivism	0.29	0.13	0.17
Non Violent Recidivism	3.91	4.90	1.00
# of Days to Recidivate	545.34	630.71	85.38
# of Days Incarcerated	95.87	103.07	7.20

*$p < .05$.

Controlling for Previous Offending

Given that age, PCL:YV scores, and total previous charges all significantly correlated with recidivism, a post hoc analysis was carried out to investigate if the relationship between the PCL:YV and recidivism would remain if age and previous offending were controlled for. More specifically, the question arose as to whether the PCL:YV would make a unique contribution to the prediction of recidivism above and beyond what could be accounted for from previous offending. A hierarchical multiple regression was carried out where general rates of recidivism was entered as the dependent variable and age, previous offending, and PCL:YV scores were entered as the independent variables respectively. As can be seen in Table 9, the PCL:YV was not

significantly associated with recidivism when previous charges were controlled for. Age was also found to have no significant effect.

Table 9.

Hierarchical Multiple Regression for Variables Predicting General Recidivism (N = 95)

Independent Variables	*B Weight*	*r*	*R*	R^2
Age	-0.18	0.04	0.04	0.00
Total previous charges	0.40**	0.37	0.40	0.16
PCL:YV Scores	0.15	0.25	0.43	0.18

**p<.01

Discussion

The purpose of this study was to replicate previous retrospective research investigating the validity of the PCL:YV in predicting offending with youth. Based upon a sample of incarcerated adolescent males, this study obtained PCL:YV scores, by using historical file information, and examined the relationship between these scores and future offending behavior upon release from incarceration over a three-year period. Previous criminal charges were also recorded to examine the behavioral correlates of the PVL:YV as well as to investigate the relationship between past offending and future offending behavior.

PCL:YV and Recidivism

The majority of the adolescent offenders (63%) recidivated during the three-year follow-up period. A smaller proportion reoffended violently (31%) and with far less frequency. Research by Gretton et al. (2004) found a much higher rate of violent offending (70%). However, these authors recorded offenses over a 10-year follow-up period. It would be interesting to track this present adolescent sample over a longer period to see if similar rates to those of Gretton et al. would be found.

Overall, results revealed a significant relationship between PCL:YV scores and general recidivism before controlling for other variables. These findings support the first hypothesis of the study. In other words, the higher an individual scored on a measure of psychopathy, as measured by the PCL:YV, the greater the number of offenses committed upon release. When examining non-violent charges alone, the same significant relationship was found. The results partially support previous research, where similar correlations were found between the PCL:YV and general recidivism (e.g. Gretton et al.,

2001; O'Neill et al., 2003; Ridenour, 2001; Rowe, 2002). However, other researchers (e.g., Forth et al., 1990; Gretton et al., 2004) have not found a relationship with general or nonviolent reoffending.

The PCL:YV did not predict violent recidivism. Although other researchers have found a relationship between the PCL:YV and violent reoffending (e.g., Forth et al., 1990; Gretton et al., 2004; Ridenour et al., 2001) this study did not support these previous results. One possible explanation for this may be that the rate of violent recidivism with this sample makes up a very small proportion of the overall rate of recidivism per year (recall that the rate of general recidivism had a mean of 4.9 charges per year while violent charges were 0.3 per year). Thus the much rarer occurrence of violent offenses may affect the strength of the relationship. Another contributing factor may be the classification of violent crimes. Obvious items included in the coding of violent crime are offenses such as homicide, assault, and robbery. Less obvious items, which researchers have differed over, include items such as uttering threats and possession of a weapon. It is also questionable as to whether all sexual offenses should be included under the violence category. However, Gretton et al.(2001) separated categories into sexual and violent offenses and found a significant relationship with the PCL:YV and violent offenses but no relationship with sexual offenses. It may be useful in the future to determine a uniform definition of what constitutes a violent crime.

Based upon past research that found significant differences in recidivism between low and high PCL:YV scores (Brandt. et al., 1997; Catchpole & Gretton, 2003), it was hypothesized that adolescents with higher PCL:YV scores would recidivate sooner and more frequently. However, results revealed no significant differences in mean rates of

general or violent recidivism between any of the three low, medium, and high scoring PCL:YV groups. One explanation may be the relatively rare occurrence of high PCL:YV scores with this sample in general. Recall that only 14 cases received scores of 25 and higher. As well, using the adult cut-off score of 30, which has also been used with some adolescent samples, only two cases obtained scores of 30 and over.

Differences between Adolescents Who Did and Did Not Recidivate

An interesting finding came from separating the adolescents into groups according to who reoffended during the follow-up period and who did not. The majority of the 95 cases were charged with at least one offense, while 32% of cases remained offense free. "Reoffenders" and "non-reoffenders" differed significantly in regards to previous criminal histories and PCL:YV scores. As would be expected, those who reoffended had higher scores on the PCL:YV and more total previous charges. These results are generally consistent with those of Catchpole and Gretton (2003) who determined that there was a significantly higher probability that an adolescent who reoffended would score higher on the PCL:YV than one who did not recidivate. However, Catchpole and Gretton found this was the case for both violent and general recidivism.

PCL:YV and Number of Days to Recidivate

Several previous studies have found a relationship between PCL:YV scores and the amount of time before an adolescent recidivates. As with previous research (e.g., Gretton et al., 2004), it was predicted that there would be a negative correlation between PCL:YV scores and number of days upon release to reoffend. In other words, adolescents with higher PCL:YV scores were expected to have a shorter length of time in

the community before committing another offense. Results revealed a negative relationship between these two variables; however, it did not reach statistical significance. The mean number of days to recidivate was also compared between low, medium, and high scores on the PCL:YV and no significant differences were found between means. This may partially be due to the large variability in the number of days to recidivate (M = 160 days, SD = 290).

Remand vs. Treatment Adolescents

Interesting differences were found between adolescents who were admitted for treatment and those admitted for remand assessment. The treatment group had a significantly larger criminal record and also had higher rates of recidivism during the three-year follow-up. As well, adolescents admitted for treatment had PCL:YV scores that were approximately 5 points higher on average than the remand adolescents. These findings support the hypothesis that higher PCL:YV scores is related to higher rates of offending. It is not surprising that the adolescents admitted for treatment from a young offender institution would have lengthier criminal records, given that incarcerated adolescents in general have committed more frequent and serious offenses. Adolescents who are admitted for assessment on remand status have not yet been convicted; therefore some of this sample will eventually be released without conviction or, if convicted, may receive alternative measures such as probation. These two groups are not completely distinct from each other insofar as they have all been charged with an offense and approximately 40% of all adolescents admitted to the treatment program were previously admitted on remand status to be assessed. Thus, there is significant overlap between

groups. Using both treatment and remand adolescents for this study allowed for a sampling of individuals with a wider variety of criminal offenses.

Offending History

It was found that criminal history was related to PCL:YV scores; specifically, higher number of previous charges were significantly correlated with higher scores on the PCL:YV. This finding supports the fourth hypothesis of this study. As well, these results are consistent with past research (e.g., Gretton et al., 2004; Kosson et al., 2002; Salekin et al., 2004). No relationship was found between previous violent crimes alone and the PCL:YV. This is consistent with the research of Campbell et al. (2004) who reported that no significant correlation was found between prior violent convictions and PCL:YV scores. However, many other researchers have found that higher PCL:YV scores are associated with a history of violent offending (Gretton et al.; Kosson et al.; Salekin et al.).

Previous criminal history significantly correlated with all future criminal charges and violent charges alone. This means that individuals with the largest criminal records proceeded to commit more offenses in the future (both violent and non-violent) after release from institution. However, the number of previous violent offenses alone did not contribute to the prediction of future violent offenses. In general, this suggests that the frequency of previous criminal behavior is a reasonably good predictor of future criminal behavior. Total previous charges also significantly correlated with the amount of time spent in incarceration during the three-year period upon release. Considering that criminal history was found to correlate with the number of future charges, this relationship would be expected as more charges will likely mean more time spent incarcerated. Finally, both total previous charges and previous violent charges alone

correlated with the age of the adolescent at the time of discharge from the program. This relationship may be expected as the older the adolescents are the more opportunity they have to reoffend.

Controlling for Previous Offending

During the course of the study, several findings necessitated a post hoc analysis. Specifically, the relationship between previous offending and future offending was stronger than the relationship between the PCL:YV and future offending. As well, the number of previous charges was correlated with PCL:YV scores and age. Thus, it was decided to carry out a hierarchical multiple regression analysis to determine if the PCL:YV made a unique contribution to the prediction of recidivism once age and previous offending were controlled for. The PCL:YV still maintained explanatory power when age was included; however, the association was no longer significant when previous charges were factored in. These results suggest that the PCL:YV was not able to add to the prediction of recidivism beyond what could already be accounted for by previous offending behavior. Several researchers who found a significant association between the PCL:YV (or modified PCL-R for adolescents) and reoffending did not control for previous criminal behavior (e.g., Corrado, Vincent, Hart, & Cohen, 2004; Forth et al., 1990; Catchpole & Gretton, 2003; O'Neill et al., 2003) so it is difficult to say if the results would be similar. However, Gretton et al. (2004) controlled for previous criminal history and Conduct Disorder and still found that the PCL:YV made a unique contribution to the prediction of violent recidivism beyond other variables ($\beta = .09$). Gretton et al.'s methods differed from the current study's as they ran the regression with

violent recidivism only and classified recidivism into yes or no categories (point-biserial correlations).

Limitations of the Study

There were several limitations to the present study. Perhaps, most importantly, this was a retrospective study relying on correlational data to draw inferences. Although past research has shown it acceptable for the purposes of research to use file information alone for scoring the PCL:YV, the authors of the PCL:YV recommend using interview data when possible. Information available in adolescents' files was quite comprehensive, with thorough background histories and daily behavioral observations recorded while on the forensics unit. However, there was no possible way to obtain further information for items of uncertainty. Therefore data collection is solely based upon information already in existence. Seagrave and Grisso (2002) suggest that corroboration across multiple sources (i.e., historical information, family interviews, and interview with the youth) is essential with forensic assessment in order to decrease errors that might occur from relying on one source. Live interviews would be particularly useful for scoring the PCL:YV items directed at affective and interpersonal characteristics. Several other authors who scored the PCL:YV retrospectively have also suggested that the assessment may be more accurate and reliable if interviews were completed (e.g., Campbell et al., 2004; Gretton et al., 2004). As well, the ultimate goal of research with the PCL:YV is to examine its clinical usefulness, therefore, it will be important to complete further research which includes interviews with adolescents; as live interviews are recommended in the PCL:YV manual for using the instrument in clinical practice.

There are also limitations in inferences that can be drawn from correlational research as a direct cause and effect relationship cannot be established. Although a relationship was found between PCL:YV scores and general rates of recidivism, this study was not able to account for other factors that contribute to reoffending. It should be noted that all significant correlations with the PCL:YV were modest at best, therefore a significant amount of the variance in recidivism cannot be accounted for. As well, once criminal history was controlled for, the PCL:YV lost all explanatory power in predicting recidivism. In addition, although the total number of previous charges was most strongly correlated, it only accounted for 12% of the variance in general recidivism.

Another drawback is related to the limited access in recording delinquent behavior. Recording charges and convictions was limited to criminal activity within the province of Alberta. Therefore, offense rates may be slightly underestimated if charges were incurred outside of the province. In addition, any delinquent behavior the sample of adolescents may have engaged in without being arrested could obviously not be accounted for. A few previous studies have explored this by having adolescents report their antisocial behavior. For example, Campbell et al. (2004) found a significant relationship between the PCL:YV and self-reported aggression yet the relationship was not significant between previous violent crime and the PCL:YV. However, self-report measures are only as accurate as the reporting individual.

Finally, as discussed above, there was a relatively small sample of individuals with high scores on the PCL:YV. Only two individuals had scores above the higher, more conservative cutoff of 30 or above. Psychopathy in itself is relatively rare, making up a smaller proportion of those diagnosed with Antisocial Personality Disorder. Future

research could attempt to isolate a larger sample of adolescents with high scores on the PCL:YV and collect information on their antisocial behaviors prospectively.

Implications of the Study and Future Directions

Although this study did not directly investigate the construct of psychopathy in adolescence, research examining adolescent behavioral correlates of the PCL:YV that are consistent with adult behavioral correlates of the PCL-R may assist in understanding the development of psychopathy prior to adulthood. However, some researchers have voiced concerns with labeling psychopathy in adolescents. Specifically, there is debate over the stability of psychopathic traits in youths when considering all the developmental changes that occur in adolescence. (Edens et al., 2001; Seagrave & Grisso, 2002; Vincent & Hart, 2002). It is difficult to determine how strong a predictor psychopathy in adolescence is for determining long-term future criminality and violence when there is a lack of longitudinal research. To date, no prospective research has followed adolescent offenders into adulthood using the PCL. Cleckley (1976), a significant contributor to the current conception of psychopathy, also expressed his concern in identifying psychopathy in developing adolescents. In the fifth edition of *The Mask of Sanity* he stated, "Sometimes, however, the child or the adolescent will for a while behave in a way that would seem scarcely possible to anyone but the true psychopath and later change, becoming a normal and useful member of society. Such cases put serious responsibility on the psychiatrist." (p. 270). The longitudinal research completed by Moffitt has significantly added to our understanding of the lifetime development and course of delinquent behavior and this type of research will be essential to understanding the construct of psychopathy in the future. Perhaps the primary concern with using the

PCL:YV, with the most severe consequences attached to it, is that it will be used in the criminal justice system to make decisions regarding the type and severity of sanctions given to youth. However, the authors of the PCL: YV also warn against using the instrument for the purposes of labeling youths and making treatment decisions (Forth et al., 2003). Currently, its primary use is for research purposes in clinical settings. A significant amount of empirical work is still needed to understand the construct of psychopathy in youth before it can be considered in the decision making process with adolescent offenders.

Conclusions

Overall, the study found that although the PCL:YV correlates with general recidivism, it did not add any prediction above and beyond what could be accounted for by previous criminal behavior. However, some researchers have controlled for past criminal behavior and still found a small but significant relationship (e.g., Gretton et al., 2004). This study also revealed that even before controlling for criminal history, no relationship was found between psychopathy and violent recidivism, whereas others have found a modest, but significant, relationship with violence. These inconsistencies between various studies may be resolved as more research emerges in the future. As has been recommended by many researchers examining the clinical usefulness of the PCL:YV (e.g., Brandt et al. 1997; Corrado et al., 2004; Gretton et al., 2004) longitudinal research is needed to gain a better understanding of how psychopathy develops across the lifespan. Prospective studies will help to resolve inconsistencies in the literature regarding the usefulness of the PCL:YV as a risk assessment instrument, and may also contribute to understanding the construct and stability of psychopathy in adolescence.

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Appendix A

PCL:YV Items (Forth, Kosson, and Hare, 2003)

1. Impression management
2. Grandiose sense of self worth
3. Stimulation seeking
4. Pathological lying
5. Manipulation for personal gain
6. Lack of remorse
7. Shallow affect
8. Callous/lack of empathy
9. Parasitic Orientation
10. Poor anger control
11. Impersonal sexual behavior
12. Early behavior problems
13. Lacks goals
14. Impulsivity
15. Irresponsibility
16. Failure to accept responsibility
17. Unstable interpersonal relationships
18. Serious criminal behavior
19. Serious violations of conditional release
20. Criminal versatility